(19) World Intellectual Property Organization

International Bureau





(43) International Publication Date 22 September 2005 (22.09.2005)

PCT

(10) International Publication Number WO 2005/087909 A1

(51) International Patent Classification⁷: 1/12, 1/26

C11D 11/00,

(21) International Application Number:

PCT/US2004/004030

- (22) International Filing Date: 11 February 2004 (11.02.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

- (71) Applicant (for all designated States except US): STEPAN COMPANY [US/US]; 22 West Frontage Rd., Northfield, IL 60093 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): OULMAN, Donald, E. [US/US]; 7S207 Thornapple Rd., Naperville, IL 60540 (US).
- (74) Agent: GROETKEN, Troy, A.; McAndrews, Held & Malloy, LTD., 34th Floor, 500 W. Madison Street, Chicago, IL 60661 (US).

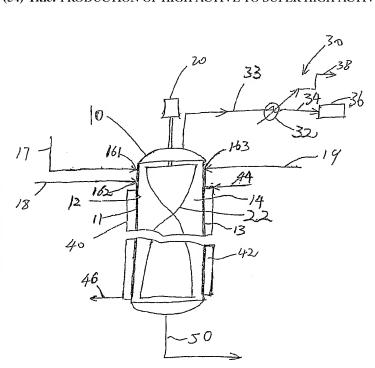
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PRODUCTION OF HIGH ACTIVE TO SUPER HIGH ACTIVE SURFACTANTS IN A VACUUM NEUTRALIZER



(57) Abstract: A process for producing surfactant products by reacting, in a jacketed vacuum neutralizing reactor, the acid form of an anionic surfactant with a neutralizing agent, and supplementing heat to the reactor via a heat transfer medium on the jacket, which is not cooling water. The surfactant product made by such a process may exhibit a solids concentration of from about 50% by weight or greater. A vacuum reactor that has a heating jacket using a heat transfer medium, such as steam, that is not cooling water, and can function both as a neutralizing reactor and an evaporator, is also contemplated.